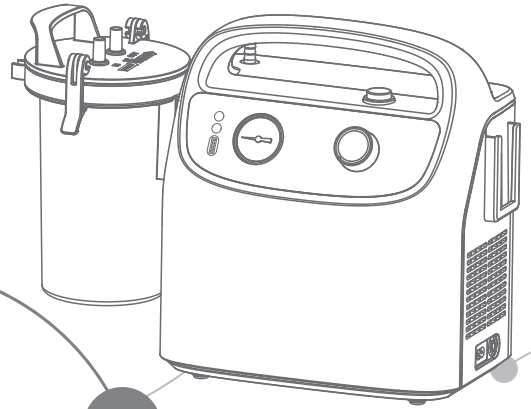
yuwell



7E-G1

Portable Phlegm Suction Unit

User's Manual

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130525-0A

Please read the user's manual carefully before using!

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I. Safety Guidelines

Warning: This product is precisely manufactured, finely assembled and wired. Therefore, do not disassemble or attempt to repair it.

All repairs must be carried out by qualified personnel from an authorized repair center.

I. Important Safety Measures

The following basic safeguards must be followed when using the electrical product, especially for children:

- Danger: Reduce the risk of electric shock

1. Cut off the power supply immediately after each use.
2. Immediately cut off the power when the machine falls into water rather than reach for it.
3. Do not place or store the machine where water or other liquid is easy to drip.
4. Do not touch the machine when it is wet.
5. Do not disassemble the machine. Services should be performed by qualified service personnel.
6. Regularly check electrical safety indicators of the machine.

- Warning: Reduce the risk of burns, electric shock, fire or personal injury

1. When the machine is powered on, it must not be left unattended.
2. Timely monitor the products when they are used by children or individuals.
3. This manual only describes the usage of the product. Do not use accessories other than those recommended by the manufacturer. Otherwise, it will degrade the machine performance.
4. Please do not use the machine and return it to the service center for inspec-tion and repair when the following situations occur:
The power cable or plug is damaged, the machine cannot work properly, the machine has been dropped or destroyed, the machine has fallen into water, etc.
5. Keep the power cable away from the surface of heating or heating device.
6. Do not block the air vent of the product, and keep the air clear of stuff such as soft cloth or fluff.
7. Do not drip or insert any substance into the machine orifice.
8. Notice during operating that the excessive negative pressure may cause personal injury.

II. Product Features

I. Application

- Scope of application: For sucking viscous liquid such as pus blood and phlegm
- No contraindications.
- Not suitable in field or during operating

II. Structural Characteristics and Working Principle

- The product structure is composed of negative pressure pump, housing, liquid storage bottle, negative pressure indicator, air filter, suction tube, battery and vehicle-mounted connection cable. Note: This product uses the vacuum gauge as negative pressure indicator. The vacuum gauge belongs to negative pressure indicator (the vacuum gauge hereunder refers to negative pressure indicator)
- Use the oil-free lubrication pump, so that the environment is not polluted by oil mist.
- Low noise.
- Detachable power cable, full plastic housing design.
- The equipment will not produce positive pressure in operation, to ensure its reliable performance and safe use.
- The negative pressure regulation system can adopt the stepless voltage regulation upon need.
- Small in size, light in weight, portable, suitable for all kinds of emergency situations.
- Use three power supply modes of AC, external DC and built-in battery. The built-in battery can be used continuously for no less than 60 minutes under sufficient power (limit negative pressure working condition) and can be recharged repeatedly. It can be directly connected to the cigarette lighter for use, and the battery is charged while working with AC. It's especially suitable for the occasion without AC.
- The operating principle diagram shown as follows:

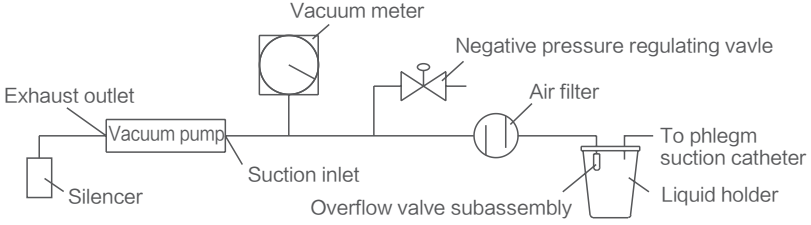


Fig. 1 Operating principle diagram

III. Main Technical Performances

1. High vacuum, high flow
2. Power supply: AC(100-240)V, 50Hz/60Hz or DC 12V 5A
3. Input power: 150VA
4. Maximum vacuum: (85 ± 5)kPa
5. Adjustable range of the negative pressure (no lower than): 20kPa to the limit value
6. Flow rate(measuring point at the device inlet): (27 ± 4)l/min
7. Fuse tube: F1.6AL 250V, Φ5 × 20(network power).
8. Liquid storage bottle: ⩾1000mL, 1pc
9. Noise: ⩽65dB (A)
10. Net weight: 4.0kg
11. Size: 480 × 189 × 285(mm)
12. Service life: 5 years(except for fragile and consumable parts)

⃠Non AP/ non APG equipment (The equipment cannot be used with flammable anesthetic gas mixed with air or flammable anesthetic gas mixed with oxygen or nitrous oxide).

- Duty cycle: 30 minutes on, 30 minutes off.
- Electric shock protection category: Class II external power supply equipment internal power
- Power supply equipment
- Electric shock protection degree: B type applied parts
- Ingress of liquid protection category: IPX0

IV. Conditions for Normal Operation

Ambient temperature range: +5℃~+35℃ Relative humidity range: 30%~80%
Atmospheric pressure range: 86kPa~106kPa

ⓘ **Notice:** When the storage and transport temperature is lower than 5℃, the device should be placed in the normal operating temperature environment for more than 4h before.

III. Installing and Commissioning

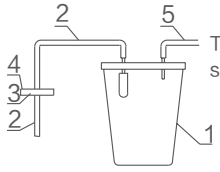
I. Open Package Inspection

Before product installation and commissioning, the user should first check whether the product appearance is good and whether the variety and quantity of accessories are consistent with the list of accessories. In case of any defect, please contact the supplier or manufacturer in time.

II. Connecting (refer to Fig. 2)

(Refer to tube connection diagram, the suction catheter may temporarily not be connected)

ⓘ **Notice:** Before installation, apply a small amount of distilled water on the pressing part of the bottle cap to tighten and enhance its sealing.



1. Liquid storage bottle 2. Suction tube 3. Air filter
4. "Inlet" mark 5. Suction soft tube

Fig. 2 Tube connecting diagram

III. Connect the Power Supply

Connect the power plug to the power supply, and the power indicator will illuminate.

ⓘ **Notice:** The external power cut-off device of this product is the power plug.

IV. Connector Inspection

- Tighten negative pressure regulator clockwise, block the suction ilet with finger or dropper rubber tip, or fold and pinch suction soft tube.
- Start the phlegm suction unit for running with no strange sound, the pointer on the vacuum gauge will rise to the limit negative pressure value. Release the suction inlet, the gauge will return to below 20kPa. Compliance with the above conditions means the tube connection is correct.
- Connect the suction catheter. When the 2.67mm (F8) suction catheter is connected, the negative pressure value is below 60kPa; when a 4.0mm (F12) suction catheter is connected, the negative pressure is less than 30kPa. Compliance with the the above conditions means the phlegm suction unit is normal and the suction tube is unblocked.

ⓘ **Notice:** If the suction tube is not unblocked, use the following method to dredge: Fold the suction soft tube into a V shape (no liquid in the liquid storage bottle), so that when the negative pressure value reaches the maximum, the suction soft tube will be quickly restored to its original state. Repeat the operation and force the suction tube unblocked.

V. Negative Pressure Regulating

- Block the suction inlet, open the phlegm suction unit switch, adjust the negative pressure regulating valve, the reading on the vacuum gauge should not be within the range of 20kPa ~ the limit negative pressure value.
- During clinical practice, the negative pressure regulating valve is used to control the negative pressure value required by phlegm suction.
- Keeping turning the negative pressure control valve clockwise and the negative pressure increases.
- Reduce the negative pressure below 0.02MPa prior to power shut-off.
- Adjust the required negative pressure according to the actual situation of the patient, notice that excessive negative pressure may cause personal injury.

V. Inspection and Test on the Overflow Device

- Open the bottle cap, clean the valve port. Press the rubber valve clack on the flat float, the valve clack should have no defects such as warping and rupture, and the float is well connected. The float should move flexibly inside the float frame.
- Lift the bottle cap by hand, slowly move the bottle cap down so that the float is in vertical contact with the water. The float should be able to float in the float frame.
  Close the bottle cap, attach the suction soft tube to the suction port, tighten the regulating valve, and run the phlegm suction unit.
- Put the suction soft tube into a clear water bucket or simulate the normal use situation. Suck the liquid into the liquid storage bottle with overflow device. The liquid level rises, which will drive the float up, until the valve is closed, the suction automatically stop. The final level of the liquid level will change depending on the suction method.
- Loosen the regulating valve, turn off the phlegm suction unit, open the bottle cap, empty the liquid storage bottle. The float should be at the bottom of the float frame with the valve opening when the cap is re-tightened.
- Compliance with the above conditions means the overflow device works normally, which can be clinically practice.

ⓘ **Notice:** The overflow device prevents the liquid foam inside the storage bottle from entering the equipment.

ⓘ **Notice:** After the overflow device is closed, the liquid level still continues to rise, there are two situations:
(1) Residual negative pressure still in the liquid storage bottle;
(2) The valve port is not fully closed.
For first situation: When the suction soft tube leaves the liquid to be sucked and then extends into it, the liquid level in the liquid storage bottle should no longer rise; For second situation: The liquid level continues to rise. Carefully observe. When the liquid storage bottle is almost full, immediately remove the suction soft tube from the liquid, trun off the phlegm suction unit, stop suction, and conduct troubleshooting.

- Suction stops after the float closes the valve port. But because of the negative pressure in the tube, the float may still be sucked on the valve port. Loosen the regulating valve or turn off the phlegm suction unit, release the negative

pressure in the pipeline. Under the action of gravity, the float falls from the valve port. (It is strictly forbidden to pull the float by hand to prevent the rubber valve plate from detaching from the float. If there is mucus on the float, clean it thoroughly before another use.)

- After shutdown, release the negative pressure before opening the bottle cap.

⃠ It is strictly prohibited to use the phlegm suction unit when the overflow device is removed.

In case of overflow, the suction tube should be immediately removed from the liquid.

- Turn off the phlegm suction unit and stop suction. Re-check and test the overflow device. Contact the manufacturer, if necessary.

VII. Stop Running

After installation, commissioning or use, switch off the phlegm suction unit. Remove the power plug from the power socket and cut off the network power.

VIII. Safety Related Symbols and their Meaning

Symbols	Description	Symbols	Description
~	Alternating current		Type B application part
	Class II Equipment		General warning sign
	OFF(Power disconnection from the parts)		ON(Power disconnection from the parts)
	FRAGILE	IPX0	Non-protection
	KEEP DRY		KEEP UP
	Manufacturer		
	The environmental protection service life of the pollution control signs of electronic information products is 5 years, excluding consumables.		

IV. Application and Maintenance

I. Application and Maintenance

- Before use, check the phlegm suction unit according to the installation and commissioning procedure, ensure that its performance is in good condition. And then, connect the sterilized suction soft tube and suction catheter. It can then be put into use.

⓵ **Notice:** Refer to the package instructions before using the accompanied suction catheter.

- Use the regulating valve to make adjustment to the required negative pressure value, and open or close the switch depending on the situation. Frequently pay attention to the liquid level inside the liquid storage bottle. When the liquid level rises to the calibration capacity of the liquid storage bottle (it is still applicable within 10 degrees of the tilt of the unit), the phlegm suction unit should be stopped and the liquid storage bottle should be emptied and cleaned before use. Otherwise, the liquid level will drive the float to rise until the valve is closed, forcing the suction to stop automatically.

⓵ **Notice:** If the liquid level still continues to rise after the overflow device is closed, adopt to the troubleshooting given in the "inspect and test on the overflow device".

- Emergency measures during use:

1) When thick phlegm and mucus block the suction tube, quickly loosen the negative pressure regulating valve, release the negative pressure. The suction tube should be replaced before phlegm suction.

2) If it is not easy to remove the human tissue from the suction tube after phlegm sucking, the negative pressure regulating valve should be loosened according to the above method.

- Before phlegm sucking, fold the suction soft tube into a V shape. After the negative pressure reaches the required range, insert the suction soft catheter into the patient's phlegm blocking site, and then restore the suction soft tube to its original state for phlegm sucking, and the effect will be quicker.
- The size of the suction catheter will be selected by the medical staff according to clinical requirements.
- The suction tube should be used under the guidance of qualified medical personnel in strict accordance with the instructions and operating procedures. In case of any doubt, please contact the supplier or manufacturer.

⓵ **Notices:**

(1)The startup duration cannot exceed 30 minutes

(2)The suction amount of phlegm should not exceed the highest liquid level warning mark

(3)If negative pressure is insufficient, tighten the bottle cap and tube connector

II. Internal Battery Use and Maintecance

- Before using the built-in battery, check whether the battery is sufficient.
- Insert the power plug into the AC power socket. The power indicator on means that the power is connected. The charging indicator on (blinking light) means

that the battery under charging. When the power indicator is fully on and stops blinking, it means that the battery is fully charged.

- Disconnect the network power and make the machine work with the built-in battery.
- When the battery almost runs out, the under voltage indicator is on. Please charge the battery immediately. It takes about 4 hours to fully charge the battery.

Indicator status:

Symbols	Indicator light	Indicative meaning
	On/Off	Switch on network power/Switch off network power
	Blinking light	Charging
	Bottom light blinking	Slow blinking: Low battery prompt Fast blinking: Exhausted power prompt
	All lights flash.	Unidentified battery pack
	Lighten/Off	Motor running/Motor stop

Battery prompt:

				
>85%	60%-85%	35%-60%	10%-35%	<10%

ⓘ **Notice:** If the battery is not used for a long time, it should be discharged and charged once a month.

ⓘ **Notice:** If the battery needs to be replaced, it should be operated by the professional personnel. Please timely contact the supplier to replace the new battery.

III. Use of Power Supply with Cigarette Lighter (DC12V)

- Before connecting the external DC power supply by cigarette lighter, make sure that the power supply voltage is consistent with the machine voltage and that the switch is turned off. The cigarette lighter indicator on means the external power supply is properly connected.

ⓘ The special vehicle-mounted connection cable from the company must be used.

ⓘ The power supply of cigarette lighter cannot charge the machine, please use the power supply of external network for charging.

IV. Maintenance after Use

- Before shutdown, it is recommended that the suction catheter should suck a small amount of clean water to clean the inner wall of the pipe.
- After shut off, empty the liquid storage bottle, use a soft brush or cloth to remove the dirt on the bottle and cap, and then rinse with clean water. (including overflow device, gasket and various pipes), remove the overflow device when necessary, detach the float frame and float for thorough cleaning (notice: rubber valve plate shall not be detached from the float).
- After using the suction tube, use physiological saline to clean the residual thick phlegm and mucus in the tube. If the suction tube is not smooth, replace it. It's recommended to use the disposable suction tube.
- The liquid storage bottle, bottle cap and various tubes should be soaked in 500mg/L chlorine-containing or bromine-containing disinfectant on a clean basis.

ⓘ After 30 minutes, rinse with clean water, and put it on reserve use after being dry.

The liquid storage bottle is made of plastics. Avoid collision with sharp objects when cleaning and using, and avoid falling.

- Use a damp cloth soaked with disinfectant to wipe the outer surface of the machine housing. Liquid should be prevented from seeping into the cracks of the machine housing, and font and pattern should not be wiped.
- When the equipment is not in use, it should be placed in a dry and clean place, and it should be turned on regularly (usually one time every 6 months).

ⓘ Before using the phlegm suction unit again, the overflow device and other tubes must be installed according to the tube connection mode. Before using the phlegm suction unit again, check the appearance of the insulation of the power cable, the plug of the power cable, the power on/off status by dialing up and down, and fastening condition of electrical components on machine surface to ensure the electrical safety of the machine. In case of any questions, please contact the supplier or manufacturer.

- The warning and precautions listed here are for the correct and safe use of the product so as to prevent any harm or damage to the user or other people.
- The warnings and precautions are as follows:

Legend	Content
⚠Notice	Indicates that personal injury or property damage may occur when the product is used incorrectly.
ⓘ	ⓘSymbol means compulsory requirements (things that must be complied with). Specific compulsory contents are ⓘ in or near that are shown in words or pictures. Left symbol means "general compulsory".

⃠	⃠ Mark means prohibition (things that can't be done). Specific prohibition contents are ⃠ in or around it and are shown in pictures or words. Left symbol means "general prohibition".

V. Trouble Shooting

No.	Fault	Probable reasons	Solutions	Remarks
1	The negative pressure limit is less than 60kPa.	1) Air leakage of bottle mouth 2) Air leakage at tube joint 3) Loosening or release of regulating valve 4) The atmospheric pressure of the use site is inconsistent	1) Clean the dirt on the bottle mouth, close or replace the bottle stopper, gasket or connector 2) Re-tighten all connection joints 3) Tighten the regulating valve 4) Please move the portable phlegm suction unit to the place with the atmospheric pressure specified in the manual.	1) The maintenance of parts in the device should be carried out by profes-sional personnel 2) Replace it when the suction tube ruptures
2	The negative pressure value is greater than 40kPa, but the suction at the pipe mouth decreases or disappears obviously.	1) After shutdown, turn the regulating valve, counterclockwise, release the negative pressure in the tube and tighten it again. 2) Clear, clean or replace the suction tube. 3) Replace the company's air filter	1) After shutdown, turn the regulating valve, counter-clockwise, release the negative pressure in the tube and tighten it again. 2) Clear, clean or replace the suction tube 3) Replace the company's air filter	1) Timely empty the liquid storage bottle 2) The "inlet" mark end in the air filter is the air inlet
3	Power source normally, indicator does not light	1) Loose socket 2) Fuse tube blown. 3) The indicator light is damaged.	1) Repair or replace the socket 2) Replace the fuse tube 3) Replace the indicator light	2) Fuse Specification: F1.6AL250V Φ 5×20
4	Fuse tube blown.	1) Over voltage 2) Short circuit of internal line 3) Pump block rolling, electric current increase	1) Regulate voltage 2) Check the circuit and eliminate the fault 3) Check the pump body and motor	Carried out by professional maintenance personnel (refer to the Electrical schematic diagram)

No.	Fault	Probable reasons	Solutions	Remarks
5	When disconnect the external power, it doesn't work after turning on.	1) The battery has run out. 2) Short circuit connect of internal line 3) Circuit board malfunction	1) Use after charging by external power 2) Check the internal line and eliminate the fault 3) Check circuit board and eliminate the fault	2 and 3 are carried out by professional maintenance personnel (refer to the electrical schematic diagram)
6	Network power normal, work normally, indicator abnormal	1) Short circuit connect of internal line 2) Circuit board malfunction	1) Check the internal line and eliminate the fault 2) Check circuit board eliminate the fault	Carried out by professional maintenance personnel (refer to the Electrical schematic diagram)
7	Machine charging failure	1) The network power connected is poor. 2) Circuit board malfunction 3) Battery pack malfunction	1) Check network power connected. 2) Check circuit board and eliminate the fault 3) Check Battery pack and eliminate the fault	2 and 3 are carried out by professional maintenance personnel (refer to the electrical schematic diagram)
8	Indicator light of charging flashing	1) Battery cannot be detected	1) Check the internal line and eliminate the fault 2) Check Battery pack and eliminate the fault	Carried out by professional maintenance personnel (refer to the Electrical schematic diagram)

⃠ **Notice:** If the pump body is faulty (Inhalation of liquid or solid substance), its disassembly and repair need to be operated by professional personnel. If necessary, please contact the manufacturer (please cut off the power supply before checking the circuit or opening the housing).

V. Other Precautions

ⓘ User's manual and technical instruction are used together.

I. Transportation and Storage Environmental Restrictions

Ambient temperature: −40℃ ~ +55℃
Relative humidity: 10% ~ 93%, no condensation
Atmospheric pressure: 70kPa ~ 106kPa

ⓘ **Notice:** Portable phlegm suction unit should be stored in non−corrosive gas and well−ventilated room, avoid violent shock during transportation.

II. Electrical Schematic Diagram (refer to Fig.3)

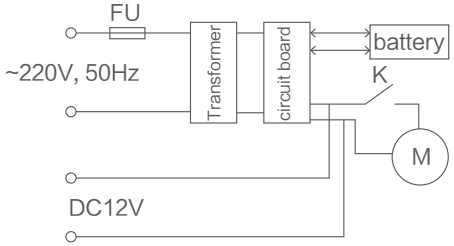


Fig. 3. Electrical schematic diagram

Electrical maintenance should be operated by professionals.

III. After-Sales Service

- Users can enjoy the three guarantee services (return, replacement and repair) in case of quality problems caused by non−human factors within one week from the date of sale according to the invoice and warranty card; and enjoy the whole unit maintenance service (except for) fragile and consumable parts in case of quality problems caused by non−human factors within one year from the date of sale. Our company provides parts and components for maintenance with reasonable fees. If users require doorstep services, the company's service rules shall prevail. If the user is unable to provide an invoice, the warranty period shall be confirmed by the company's number or production date extend−ed by one month.
- The following conditions are not covered by the warranty: ①Worn and consum−able parts: air filter, suction tube, fuse tube; ②Failures caused by unauthorized disassembly, repair, or modification of the product; ③Failures caused by accidental fall during use and handling; ④Improper use, resulting in water, blood, phlegm or sticky liquid entering suction pump, it can not work properly; ⑤ Damage or deformation of portable phlegm suction unit caused by external force; ⑥Fault caused by failure to following the correct operating methods ⑦ Damage caused by unforeseen natural disasters (such as: fire, earthquake, flood, etc.).

- If users need to purchase parts or fragile and consumable parts of the product, please purchase from the after−sales service department of the company and replace them under the guidance of the professional personnel recognized by the manufacturer. Yuyue Medical is not responsible for the consequences if customers violate operation requirements or buy accessories from individual access.
- If there is a need, you can provide the circuit diagram and information necessary for maintenance. If you have any questions about circuit maintenance, you can contact the manufacturer.

V. Accessories

Suction soft tube (length 2m, Φ7/Φ11): 1pc
Suction tube 2.67mm (F8): 1pc, 4.0mm (F12): 1pc
Fuse tube(F1.6AL250V, Φ5 × 20): 2pcs
Air filter: 2pcs
Vehicle−mounted connection cable: 1pc
Power cable: 1pc
User's Manual (including technical instruction), warranty card (conformance certificate): 1pc

1) Replace the air filter

- This product uses the disposal air filter. If the air filter is inhaled or filled with dust, the color of the filter diaphragm will change from light to dark, and the suction at the inlet of the tube will be significantly reduced or even disappear, while the negative pressure on the vacuum gauge will continue to rise to more than vehicle−mounted connection cable. And then, the company's air filter should be replaced in time in case of anomalies above.
- Replacement method: Remove the transparent plastic tube at both ends of the air filter, replace it with a new air filter, and reinsert the transparent plastic tube at both ends.
- The air filter should be changed frequently and treated as medical waste. Generally speaking, filter is replaced every three months.

ⓘ **Notice:** During use, closing the overflow device or tube blockage may also cause suction to decrease or disappear and negative pressure to rise.

ⓘ **Notice:** The air filter should be changed frequently and treated as medical waste.

2. Fuse tube replacement

Please timely contact the supplier to replace the new fuse tube. The fuse tube is installed at the back of the machine. When it needs to be replaced, cut off the power first. Turn counterclockwise to loosen it, then replace.

3. Suction catheter

Suction catheter (sold separately). If purchase is needed, please contact the after-sales for counseling.

VI. Electromagnetic Compatibility Instruction

This product meets the EMC (Electromagnetic Compatibility) standard required for the safe use of medical electrical equipment and YY0505-2012. EMC standard is a standard for the safe use of medical electrical equipment. The standard stipulates that the interference in other equipment caused by the electromagnetic wave of Equipment, as well as the electromagnetic interference from other devices (mobile phones, etc.) should be controlled within a certain range. YY0505-2012 specifies the detailed information, which shall be provided to users, related to the EMC environment in which the device operates safely. The following is a technical description of the EMC. (Please refer to YY0505-2012 for details.)

When the product works in the electromagnetic environment specified in this EMC technical document, the basic performance of the use range is not affected by it.

■ EMC Identification of EMC (Electromagnetic Compatibility)

EMC Electromagnetic Compatibility) refers to the ability to meet the following two requirements.

- It will not emit electromagnetic interference that is out of tolerance to other nearby electronic equipment. (Radiation)
- The product can perform its functions normally in an electromagnetic environment where other electronic equipment emits noise and other interference. (Immunity)

■ EMC Related technical instructions of EMC (Electromagnetic Compatibility)

Medical electrical equipment needs special reminders about EMC and should be used according to the EMC information described below.

- This product requires special reminders about electromagnetic compatibility (EMC). Please install and use the product according to the EMC information described in this manual.
- Portable and wireless radio frequency (radio frequency) communication equipment might affect this product.
- This product should not be used adjacent to or overlaid with other equipment. If the product has to be adjacent to or overlaid with other equipment, it should be observed to verify its normal operation.
- The power cable used by this product should meet the type requirements in the table below.

No.	Name	Specification and model	Cable length	Manufacturer
1	Power cable	250V/2.5A	1.25m	Huayin Instrument Electric Co., Ltd. Or Xuexiang Telecommunication Component Co., Ltd.

- Do not use accessories and cables other than special accessories. Otherwise, it may result in increased radiation and reduced immunity.
- Basic performance: Maximum vacuum: (85 ± 5)kPa

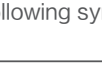
Table 1 – Guidelines and manufacturer's statement –Electromagnetic Emission

Guidelines and manufacturer's statement –Electromagnetic Emission –		
7E-G1 Portable phlegm suction unit is expected to be used in the electromagnetic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.		
Emissions test	Compliance	Electromagnetic environment-guidelines
RF emission GB4824	Group1	7E-G1 portable phlegm suction unit uses RF energy only for its internal functions. Therefore, its radio frequency emission is very low, and the possibility of causing interference to nearby electronic equipment is very small.
RF emission GB4824	Class B	7E-G1 portable phlegm suction unit is suitable for all facilities, including household facilities and other facilities directly connected to the household residential public low voltage power grid.
Harmonic emission GB17625.1	Class A	
Voltage fluctuation/flicker emission GB17625.2	Compliance	

Table 2 – Guidance and manufacturer's declaration–Electromagnetic immunity

Guidance and manufacturer's declaration–Electromagnetic immunity –			
7E–G1 Portable phlegm suction unit is expected to be used in the electromag–netic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.			
Immunity test	IEC60601 Test level	Compliance leve	Electromagnetic environment – guidance
Electrostatic discharge GB/T 17626.2	± 6kV contact discharge ± 8kV air discharge	± 6kV contact discharge ± 8kV air discharge	The floor should be of wood, ceramic or tile. If the floors are covered with synthetic material, the relative humidity should be at least 30%RH.
Electrical fast transient/burst GB/T 17626.4	± 2kV power cable ± 1kV input/ Output cable	± 2kV to the power cable Not applicable	The network power supply should have the quality used in a typical commercial or hospital environment
Surge GB/T 17626.5	± 1 kV line to line ± 2 kV line to earth	± 1 kV line to line Not applicable	The network power supply should have the quality used in a typical commer–cial or hospital environment
Power input line Voltage dips, interruptions voltage variations on power supply GB/T 17626.11	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5%U_T, (95 % dip in U_T) for 5 sec	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5%U_T, (95 % dip in U_T) for 5 sec	The network power supply should have the quality used in a typical commer–cial or hospital environ–ment. If the user of this product requires continu–ous operation during power interruption, it is recom–mended that this product be powered by uninterrupt–ible power supply or battery.
Power frequency magnetic field (50Hz/60 Hz) GB/T 17626.8	3 A/m	3 A/m	The power frequency magnetic field should have characteristics of the power frequency magnetic field used in a typical commercial or hospital environment
Remarks: U_T refers to AC network voltage before the test voltage is applied.			

Table 3 – Guidance and manufacturer's declaration–Electromagnetic immunity

Guidance and manufacturer's declaration–Electromagnetic immunity			
7E–G1 Portable phlegm suction unit is expected to be used in the electromag–netic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.			
Immunity test	IEC60601 test level	Compliance level	Electromagnetic environment – guidance
Radio frequency conduction GB/17626.6 RF radiation GB/17626.3	3V(rms) 150kHz ~ 80MHz 3V/m 80MHz ~ 2.5GHz	3V(rms) 3V/m	Portable and mobile radio frequency communication equipment should not be used closer to any part of the product, including cables, than the recommended separation distance. This recommended distance should be calculated by the formula corresponding to the transmitter frequency. The recommended separation distance $d=1.2\sqrt{P}$ $d=1.2\sqrt{P}$ 80 MHz~800 MHz $d=2.3\sqrt{P}$ 800 MHz~2.5GHz Type: P–In watts (W) according to the maximum rated output power of the transmitter provided by the transmitter manufacturer d–Recommended separation distance in meters (m) Field strengths from fixed RF transmitters as determined by an electromagnetic site survey, [a] should be less than the compliance level in each frequency range [b]. Interfer–ence may occur in the vicinity of equipment marked with the following symbols: 
NOTE 1: The formula for the higher frequency is applied at the 80 MHz and 800 MHz.			
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by the absorption and emission of buildings, objects and human bodies.			

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/–cordless) telephones and land mobile radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electro–magnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the product is used exceeds the applicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocat–ing the aspirators.

[b] Over the frequency range 150 kHz to 80MHz, field strengths should be less than 3 V/m.

Table 4 – Recommended separation distance between portable and mobile radio frequency communication equipment and the product –

Recommended separation distance between portable and mobile radio frequency communication equipment and 7E–G1 portable phlegm suction unit			
7E–G1 portable phlegm suction unit is expected to be used in an electromagnetic environment with controlled radiated disturbances. According to the maximum rated output power of the communication equipment, the purchaser or user can prevent electromagnetic interference by maintaining the minimum distance between the portable and mobile radio frequency communication equip–ment(transmitter) and 7E–G1 portable phlegm suction unit as recommended below			
The maximum rated output power of the transmitter (W)	Separation distance based on the transmitter frequency (m)		
	150kHz ~ 80MHz $d=1.2\sqrt{P}$	80MHz ~ 800MHz $d=1.2\sqrt{P}$	800MHz ~ 2.5GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recom–mended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufac–turer. **NOTE 1:** At 80MHz and 800MHz, the separation distance for the higher frequency range applies. **NOTE 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.			

Toxic and hazardous substances or elements and content in the product

Components	Toxic and hazardous substances or elements					
	Lead and its compounds ≤1000PPM	Mercury and its compounds ≤1000PPM	Cadmium and its compounds ≤100PPM	Hexavalent chromium and its compounds ≤1000PPM	Polybromi–nated biphenyls ≤1000PPM	Polybromi–nated diphenyl ethers ≤1000PPM
Housing	○	○	○	○	○	○
Negative pressure pump	×	○	○	○	○	○
Cable	○	○	○	○	○	○
Negative pressure regulating valve	○	○	○	○	○	○
Air filter	○	○	○	○	○	○
Liquid storage bottle	○	○	○	○	○	○
Vacuum gauge	○	○	○	○	○	○
Suction catheter	○	○	○	○	○	○

This table is made according to SJ/T11364

○: represents that the content of this hazardous substance in all homogeneous materials of this component is within the limits required by GB/ T26572.

×: represents that the content of this hazardous substance in all homogeneous materials of this component exceeds the limits GB/ T26572.

We reserve the right to change the technology and appearance of this product, which are subject to change without notice.